BREAST CANCER SCREENING AMONG OLDER HISPANIC AND ANGLO WOMEN IN THE SOUTHWEST: KNOWLEDGE, ATTITUDES, AND PRACTICES

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ABSTRACT

A survey was conducted with 409 Hispanic and 138 Anglo women in Tucson, Arizona, to assess their knowledge of breast cancer and cancer screening tests, their attitudes toward breast cancer and cancer screening, and their use of screening tests. There were few differences between these two groups in use of breast cancer screening tests, with both groups falling well below the recommended levels of screening frequency. The most often used test was clinical breast exam, followed by breast self-exam, with mammography a distant third. Levels of knowledge about ways to detect breast cancer and about the risks for breast cancer were also low. Overall, Arizona women have lower rates of breast cancer screening than the national average, although the rates for Hispanics are comparable to those reported in other studies. More needs to be done to alert older women, especially Hispanics, about breast cancer screening.

INTRODUCTION

This article describes older Hispanic and Anglo women's knowledge of breast cancer and screening tests, their attitudes toward the use of these tests, and reported screening practices, drawing on survey research conducted in Tucson, Arizona. It compared these data with information from other studies. In examining breast cancer, it concerns itself with one of the leading causes of death among older women, especially those over age 50. Clinical research has identified factors that put some women at higher risk than others for this disease, and has identified the major signs and symptoms associated with breast cancer. Screening methods have also been developed which, if used systematically, can detect breast cancer at an early stage when the likelihood of survival is greatest (American Cancer Society 1990, Bjornsson et al. 1986, Moskowitz 1986).

Few studies, however, have investigated the extent to which older women know about these findings, follow recommended screening guidelines, or are concerned about breast cancer. This lack of information is especially pronounced for cultural and ethnic subgroups in the population such as Hispanics. While Hispanic women are somewhat less likely to develop breast cancer than Anglo (non-Hispanic white) women (Newell and Mills, 1986), Hispanic women who do get breast cancer are more likely to die of the disease because it is usually detected at a later stage; also, the incidence among Hispanics appears to be rising (Martin and Suarez, 1987). Thus it is especially important to ascertain what older Hispanic women know about breast cancer, whether they follow recommended screening guidelines, and whether they are concerned about breast cancer.

METHODS

In 1989, an interdisciplinary team of researchers and consultants at the University of Arizona, under the auspices of the Southwest Institute for Research on Women and the College of Nursing, conducted a study of older Hispanic and Anglo women's knowledge of breast cancer and breast cancer screening tests, their attitudes about breast cancer and cancer screening, and their use of recommended screening tests.[1] Data were gathered through in-depth face-to-face interviews with 409 Hispanic and 138 Anglo women over the age of 50 in the Tucson, Arizona, metropolitan area. Respondents were chosen by an area cluster random sampling plan in order to select women age 50 and older residing in households in predominantly Hispanic, predominantly Anglo, and mixed neighborhoods. The sampled neighborhoods also varied widely in terms of socio-economic status (measured by median annual household income). The interviews were conducted by a group of bilingual, bicultural women from the Tucson community who had previous experience interviewing older women in conjunction with studies on health.

The interview schedule was translated from English into Spanish, and then back-translated, in order to ensure comparability in both languages. Questions focused on the extent to which women over 50 use preventive health care, especially mammography, clinical breast examination, and breast self-examination. In addition, information was collected on each woman's background, including socio-economic

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[1]The purpose of the study was to identify the factors that are associated with compliance with recommended breast cancer screening practices, and to develop a multivariate model that describes the relationship among the factors. This paper presents preliminary descriptive data about the sample and their knowledge and attitudes about breast cancer and their use of screening methods. More detailed analyses will be presented in subsequent papers.

status, acculturation, knowledge about breast cancer, and attitudes towards breast cancer.

FINDINGS

Analysis of the data revealed considerable differences between the characteristics of the Hispanic and Anglo women sampled (see Table 1). Their ages ranged from 50 to 98, with a median of 61 for Hispanics and 67 for Anglos. Educational level ranged from primary school to graduate degrees. One quarter of the Hispanics had completed high school compared to two-thirds of the Anglo women. About half the sample were currently married, with the rest single, separated, divorced, or widowed. Not surprisingly, given the age distribution, most were not employed. Of those working, more were in part-time than in full-time jobs and most were employed in unskilled or service sector jobs. The total number of persons in the household ranged from 1 to 14, with an average of 3.5 in Hispanic households and 2.3 in Anglo households. Monthly household income ranged from less than $500 to more than $5,000, but was lower among Hispanics. The majority had health insurance, but 25% of Hispanics and 16% of Anglos did not. The lack of health insurance was most acute among women in the 50-64 age range, before eligibility for Medicare begins (at age 65).

One quarter of the women in this sample identified themselves as Anglo; the remainder identified themselves as Hispanic.[2] Into this latter category fell women who identified themselves as Mexican, Latin American, Central American, South

[2]The respondent was asked how she identified herself, and read a list of pre-defined choices. In a few cases the respondent's self-classification did not appear to be consistent with observations made by the interviewer; however in all cases the respondent's selection was respected.

TABLE 1

BACKGROUND CHARACTERISTICS OF OLDER HISPANIC AND ANGLO WOMEN IN THE TUCSON, ARIZONA, SURVEY

CHARACTERISTICS[1]	HISPANICS (N=409)	ANGLOS (N=138)
AGE: 50-64	61.8	41.6
65+	38.2	58.4
FINISHED HIGH SCHOOL	25.2	68.1
NEVER MARRIED	3.7	5.8
CURRENTLY MARRIED	56.9	47.1
SEPARATED	2.2	0.7
DIVORCED	11.0	10.1
WIDOWED	26.2	36.2
CURRENTLY EMPLOYED	25.1	14.5
HOUSEHOLD SIZE (AVERAGE)	3.5	2.3
MONTHLY HH INCOME BELOW $1000	63.4	50.9
NO HEALTH INSURANCE	25.4	15.9
BORN IN USA	68.0	94.2
ONLY OR MOSTLY SPANISH	34.7	0.0
SPANISH/ENGLISH EQUALLY	38.6	3.6
ONLY OR MOSTLY ENGLISH	26.7	96.4
AGE AT FIRST BIRTH (MEDIAN)	20	23
CATHOLIC RELIGION	89.0	31.2
PERCENT IN THE PAST YEAR:		
SEEING AN MD	81.9	81.2
HAVING A PHYSICAL	54.3	57.2
SEEING A GYNECOLOGIST	35.7	33.3
SEEING A DENTIST	41.8	50.0

[1]All figures are in percentages unless otherwise noted.

American, Mexican-American, Hispanic, or Chicana; the majority of respondents were Mexican-American.[3] Fewer Hispanics were born in the U.S. (68%) than Anglos (94%). Only a few of those who identified themselves as Anglo reported speaking any Spanish, while there was greater variance concerning language preference among those who identified themselves as Hispanic. Religious preference was markedly Catholic among Hispanics but more varied among Anglo women.

With respect to their use of general preventive health care, more Hispanic women (74.6%) than Anglo women (69.6%) reported having a regular doctor, but nearly identical numbers of Hispanics and Anglos reported seeing a doctor within the past year (81.9% and 81.2%, respectively). About one third of both groups reported seeing a gynecologist within the past year, but more Anglo women (50.0%) reported visiting a dentist than Hispanic women (41.8%).[4]

Knowledge of Breast Cancer

Most of the respondents knew what breast cancer was. When asked how it could be detected, however, about 17% of the Hispanics and 6.5% of the Anglos could not think of any ways to detect breast cancer. The three methods recommended for detection of breast cancer are breast self-examination, clinical breast examination (by a health care professional), and mammography, with the latter being the most effective. Among both Hispanic and Anglo women in this sample, breast self-

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[3]The authors acknowledge that the term 'Hispanic' is an artificial one, and that Hispanics are not a homogeneous group. In this report, all women who did not identify themselves as Anglo are lumped together for purposes of analysis.

[4]Older Hispanic women in this sample more often said that they did not go to the dentist any more because they had no teeth, according to anecdotal reports by the interviewers.

examination was mentioned by the greatest number of women (46.9% and 70.3%, respectively) as a way of detecting breast cancer. Hispanic women may have been more reticent about mentioning breast self-examination because of greater embarrassment about the procedure (discussed below under utilization). Clinical breast examination was the second most often mentioned screening method, cited by 44.7% of Hispanics and 46.4% of Anglos. Mammography, the newest of the three techniques, was a distant third, mentioned by 37.7% of both groups. When prompted by the interviewer, however, the majority said they had heard of mammograms (see Table 2).

Most of the sample believed a woman could have breast cancer and not feel ill.[5] Nevertheless, nearly all the women in this sample could name at least one thing they considered to be a sign or a symptom of breast cancer. The most common sign mentioned was a lump, followed by ache, nipple discharge, differences in breast size, heat, puckering, and scaly skin. In addition to these commonly acknowledged signs of breast cancer, however, a number of other (erroneous) signs or symptoms were mentioned by these respondents, including fevers or hot flashes; pain in the back or chest; rash, itching or change in color; bruises; sores that won't heal; inverted nipples or other nipple changes; general nausea, dizziness, or feeling sick; and a few other miscellaneous conditions. Some of these signs are associated with other types of cancer, e.g., a sore that won't heal is associated with skin cancer, while nausea and dizziness may result from some treatments for cancer, e.g., chemotherapy. But none of these is recognized as a sign or symptom specifically applicable to breast cancer.

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[5]This may have been due to the inverse wording of the question, since a "yes" answer meant that a woman would not feel ill.

TABLE 2

KNOWLEDGE OF BREAST CANCER AMONG OLDER HISPANIC AND ANGLO WOMEN IN THE TUCSON, ARIZONA, SURVEY

KNOWLEDGE ITEMS[1]	HISPANICS (N=409)	ANGLOS (N=138)
THINKS THAT BREAST CANCER CAN BE DETECTED THROUGH:		
BREAST SELF-EXAMINATION	46.9	70.3
CLINICAL BREAST EXAM	44.7	46.4
MAMMOGRAMS	37.7	37.7
CAN'T NAME ANY WAYS	16.9	6.5
HAS HEARD OF MAMMOGRAMS (WHEN PROMPTED)	77.5	86.2
KNOWS SIGNS OR SYMPTOMS OF BREAST CANCER:		
LUMP	84.1	85.5
ACHE	42.5	31.2
DISCHARGE	17.1	25.4
SIZE DIFFERENCE	10.5	13.5
HEAT	10.0	9.4
PUCKERING	6.1	10.1
SCALY SKIN	5.4	0.7
CAN'T NAME ANY SIGNS	7.4	6.5
NUMBER OF RESPONDENTS GIVING "OTHER" SIGNS OF BREAST CANCER:		
NAUSEA, DIZZINESS	15	3
ITCH, RASH	14	6
BRUISES	7	1
SORES THAT DON'T HEAL	5	1
PAIN IN CHEST OR BACK	5	2
INVERTED NIPPLE	4	2
FEVER, HOT FLASHES	2	1
OTHER	7	2
PERCENT NAMING "OTHER" SIGNS	12.5	10.9

[1]All figures are in percentages unless otherwise noted.

(TABLE 2 CONTINUED)

KNOWLEDGE ITEMS[1]	HISPANICS (N=409)	ANGLOS (N=138)
PERCENT WHO COULD NAME RISKS FOR BREAST CANCER:		
FAMILY HISTORY	38.4	57.2
AGE	10.8	7.2
NO BIRTHS	6.4	5.1
OBESITY	3.7	5.8
LONG FERTILITY	3.4	2.2
FIRST BIRTH AFTER AGE 30	1.5	0.7
CAN'T NAME ANY RISKS	26.6	15.2
NUMBER OF RESPONDENTS GIVING "OTHER" RISKS FOR BREAST CANCER:		
INJURY, BLOW, TRAUMA	66	21
DIET, STRESS, LIFESTYLE	63	36
SMOKING CIGARETTES	44	17
MEDICATION, X-RAYS	26	13
NOT BREAST FEEDING	21	2
ALCOHOL, DRUGS	18	5
FONDLING, MANHANDLING	12	4
BREAST FEEDING	10	4
PERCENT NAMING "OTHER" RISKS	43.0	50.0
THINKS MOST LIKELY AGE RANGE FOR BREAST CANCER IS:		
UNDER 30	9.5	5.1
30-39	15.4	14.5
40-49	27.1	26.8
50 AND OLDER	22.0	23.2
EQUALLY LIKELY AT ANY AGE	21.8	25.4
DON'T KNOW	4.2	5.1
THINKS BREAST CANCER OCCURS IN 1 OF EVERY __ WOMEN (MEDIAN)	20	10

[1]All figures are in percentages unless otherwise noted.

All women over age 50 are considered to be at risk for breast cancer, but some women are more likely to get breast cancer than others. A number of factors have been identified that are associated with higher risk for breast cancer, but one fourth of the Hispanic women and one sixth of Anglo women in this sample were unable to name any risk factors, and, on the average, most women in this sample could name only one risk factor. Of the commonly accepted risk factors, those identified by our respondents included family history; age; never giving birth; obesity; long fertility; and first birth after age thirty. Nearly half the respondents, however, also mentioned as risk factors such (erroneous) things as injury or blow to the breast (including "jogging"); improper diet or eating habits, stress, and life style (including "modern bras"); smoking cigarettes; taking prescription medication such as birth control pills or undergoing X-rays or radiation; not breast feeding; consuming alcohol or drugs; excessive fondling or manhandling of the breasts (including "too much sex"); and breast feeding too many children (including "having large breasts"). Some of these things appear from time to time in the popular media (e.g., caffeine, smoking, diet) as possibly being associated with breast cancer, but none has yet been indisputably linked though clinical studies.

Opinions differed widely on the ages at which breast cancer is most likely to occur in women. Less than one quarter of the sample identified the correct age range of 50 and older. Likewise, estimates of the proportion of women likely to get breast cancer ranged from near certainty (1 out of 2) to almost no chance (1 out of 10,000). The typical response for Hispanics was 1 out of 20, whereas for Anglos it

was 1 out of 10.[6] Hispanic women tended to underestimate their chances of getting breast cancer more than did Anglo women.

Attitudes About Breast Cancer

Many respondents believed that some women are more likely to get breast cancer than others but most indicated that, compared to other women, they were only equally likely or less likely to develop breast cancer themselves. Less than 10% thought they were more likely than other women to get breast cancer (see Table 3). With regard to the prognosis for a woman with breast cancer, most respondents felt that there was a very good or good chance a woman could be cured if breast cancer is detected at an early stage. Only a few thought the chance of being cured was slight or nil. Hispanic women were slightly less optimistic than Anglo women in both these respects.

Breast Cancer Screening Practices

The breast cancer screening regimen recommended for women age 50 and older includes yearly mammography, yearly clinical breast examination (CBE) by a health care professional, and monthly breast self-examination (BSE). Just over one-half the women in this sample had ever had a mammogram, including 51% of Hispanics versus 55% of Anglos. Even fewer women reported having their mammogram within the past 12 months, in accordance with recommended screening guidelines, with a 31.8% compliance rate for Hispanics and a 35.5% rate for Anglos. Only about one out of eight Hispanic women (12%) reported having two mammograms within the past two

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[6]The incidence rate for Hispanics for breast cancer is estimated to be 63 per 100,000, whereas it is 99 per 100,000 for Anglos (Newell and Mills 1986). If the Hispanic incidence is roughly two-thirds of the rate for Anglos, then about one out of fifteen Hispanics could be expected to develop breast cancer.

TABLE 3

OLDER HISPANIC AND ANGLO WOMEN'S ATTITUDES ABOUT BREAST CANCER

ATTITUDES[1]	HISPANICS (N=409)	ANGLOS (N=138)
A WOMAN CAN HAVE BREAST CANCER AND NOT FEEL ILL		
YES	69.4	74.6
NO	20.8	15.2
DON'T KNOW	9.8	10.1
SOME WOMEN ARE MORE LIKELY TO GET BREAST CANCER THAN OTHERS		
NO	26.2	21.7
YES	67.5	69.6
DON'T KNOW	6.4	8.7
MY OWN CHANCES OF GETTING BREAST CANCER COMPARED TO OTHER WOMEN ARE:		
HIGHER	7.6	8.7
THE SAME	41.3	33.3
LOWER	46.9	50.7
DON'T KNOW	4.2	7.2
THE CHANCES OF A WOMAN BEING CURED IF BREAST CANCER IS FOUND AND TREATED EARLY ARE:		
VERY GOOD	50.9	68.8
GOOD	33.5	22.5
NOT VERY GOOD	9.3	2.2
ALMOST NONE	4.6	0.7
DON'T KNOW	1.7	5.8

[1]All figures are in percentages unless otherwise noted.

years, and about one in 17 (5.9%) reported three mammograms in the past three years; the proportions for Anglos were only slightly better (17.4% and 8.7%, respectively) (see Table 4).

It was more common for a woman to have had her breasts examined by a health care professional (CBE): 84% of Hispanic and 94% of Anglo women reported having had CBE at least once. Only about half of both groups, however, reported having their breasts examined within the past year as recommended. More Hispanic women (33%) than Anglo women (20%) reported being nervous, embarrassed, or both, by having their breasts examined; more Hispanics also qualified their statement to the interviewer to indicate that they were more embarrassed by having a male doctor.

About three-quarters of the sampled women reported doing breast self-examination at least once; for about two-thirds it was within the past year. Differences between Hispanics and Anglos were sharper with regard to breast self-examination in the past year than for the other two modes of detection. While the numbers were small, nearly ten times as many Hispanics (6.6%) were nervous about doing breast self-exam than Anglos (0.7%)

While at first glance the numbers of women doing breast self-exam seems encouragingly high, other responses cast doubt on whether these respondents are performing BSE correctly. Breast self-examination is tied to the menstrual cycle in pre-menopausal women, which would equate to about 13 times per year assuming a normal menstrual cycle of 28 days. In post-menopausal women, the recommendation is for monthly breast self-examination, or about 12 times per year. As women pass through a monthly hormonal cycle, their breasts undergo normal fluctuations in size and density. Thus it is important to examine the breasts at the same point in the

TABLE 4

BREAST CANCER SCREENING PRACTICES OF OLDER HISPANIC AND ANGLO WOMEN

PRACTICES[1]	HISPANICS (N=409)	ANGLOS (N=138)
EVER HAD A MAMMOGRAM	51.3	55.1
HAD TWO MAMMOGRAMS	20.0	25.4
HAD THREE MAMMOGRAMS	9.0	13.8
HAD A MAMMOGRAM IN PAST YEAR	31.8	35.5
HAD TWO IN PAST TWO YEARS	12.0	17.4
HAD THREE IN PAST THREE YEARS	5.9	8.7
EVER HAD BREASTS EXAMINED	84.4	94.2
HAD BREASTS EXAMINED LAST YEAR	55.7	54.3
CBE IS EMBARRASSING	32.8	19.6
EVER DONE BREAST SELF-EXAM	72.1	79.0
DID BSE IN PAST YEAR	61.1	71.0
BSE IS EMBARRASSING	6.6	0.7
TIMES PER YEAR DOES BSE (MEDIAN)	52	12
DOES BSE "DAILY"	21.5	15.9
DOES BSE IN CORRECT POSITIONS	14.9	27.5

[1]All figures are in percentages unless otherwise noted.

hormonal cycle each month in order to detect whether any unusual changes have occurred with respect to the breasts at the same point in the previous cycle.

Some of the women in this sample reported doing breast self-examination much more frequently than recommended. On the average, Hispanic women reported abnormally high frequencies of BSE (more than 52 times a year), with 21.5% giving a response such as "daily," or "whenever I shower." On the average, Anglo women reported more moderate frequencies of BSE, at 12 times per year, but one-quarter still reported an abnormally high frequency of BSE, with 15.9% saying "daily" or "whenever I shower." Proper breast self-examination requires a non-trivial investment of time and energy. It is unlikely that women who know how to perform BSE correctly will engage in the practice more than the minimum recommended frequency, due both to the time involved and to the considerations for proper timing mentioned above.

It is also recommended that the motions for BSE be performed in two positions: standing (or sitting) up and lying down. When asked how they usually performed BSE, just 15% of the Hispanics and 27.5% of the Anglos gave the correct response. These responses and anecdotal reports from interviewers[7] suggest that the interpretation of breast self-exam in this sample is different from the strict clinical definition. While the desire to do BSE may exist, it is unclear whether any real screening benefit is being derived from the way it is being performed. However, this finding is not unusual (see O'Malley and Fletcher 1987, Sheley and Lessan 1986).

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[7]When one respondent was asked when she had last done BSE, she patted her chest lightly through her clothing and said, "There! Just now!"

DISCUSSION

The Hispanic women in our sample were younger, less well educated, and less acculturated into the majority culture than the Anglo women. The Hispanic women also lived in larger households, had less income, and were more likely to lack health insurance than Anglo women. Nevertheless these two populations demonstrated comparable levels of general preventive health care utilization, with the exception of dentist visits.

The two groups differed only slightly in their knowledge about the signs and symptoms of breast cancer: Hispanic women were somewhat less well informed about risks for breast cancer, with 26.6% not aware of any risks, compared to 15.2% of Anglo women, and more Anglo women identified family history as a risk factor (57.2%) than Hispanic women (38.4%). Both groups, however, were ignorant of the age at which breast cancer most often strikes women (50 and older). And nearly half of both groups identified erroneous factors as being "risks" for breast cancer. Finally, less than half the sample could name any of the three major ways of detecting breast cancer (except for the 70% of Anglo women who mentioned BSE). Given the low level of awareness that age is a major risk factor for breast cancer and the poor recognition of the fact that they are in the prime age range for this disease, the lack of familiarity with screening practices is especially problematic. It may be that the women in this sample are not concerned about knowing how to detect breast cancer because they do not believe it applies to them.

The women differed little in their attitudes about breast cancer. Hispanic women tended to underrate the incidence of breast cancer in the general population. Both Hispanics and Anglos, however, tended to underestimate their own chances of

developing the disease. With the understanding that some women are more likely than others to get breast cancer, and with so many things being named (correctly and incorrectly) as possible risk factors, it is surprising that about half these respondents thought they had less of a chance of contracting breast cancer than other women. Another interesting finding was that despite lack of knowledge about how to detect breast cancer, both groups were fairly optimistic about the chances for survival if the cancer were detected early. Again, this seems to demonstrate that the women in this sample do not believe that they are susceptible to breast cancer.

Reported breast cancer screening practices were higher than would have been expected given the women's knowledge about how to detect breast cancer. While only 37.7% of the sample named mammography as a way to test for breast cancer, over half the sample reported having had a mammogram at some time. Several explanations may account for this apparent inconsistency. First, no clinical records were checked to verify the respondents' self-reported screening behavior, so the rate of mammography may have been over-reported. On follow up questions, however, most respondents were able to give the date of their last mammogram, which lends support to their self-reported practices. The second explanation may be that while the respondents had had a mammogram, they did not know that it was for the purposes of detecting cancer. It is doubtful that a woman who has had a mammogram would forget the experience, but it may possibly have been thought to be a test for tuberculosis. A final explanation could be that the respondents simply did not remember the connection between mammography and cancer screening until prompted, when over three-quarters said they had heard of mammograms.

The same relationship was true for having had one's breasts examined by a

physician. About 45% of the sample knew this to be a breast cancer screening technique, but twice as many had had their breasts examined at some time. In addition to the possible explanations mentioned above, the embarrassment reported by Hispanic women about having the procedure done may have contributed to the discrepancy between the proportion who mentioned it as a way to screen for breast cancer and the proportion who reported ever having the procedure performed.

Consistency between knowledge and behavior was observed only with regard to breast self-examination among the Anglo women in this sample, with 70% mentioning it as a way to screen for breast cancer and 79% ever practicing BSE. The gap for Hispanic women between knowledge of this technique (47%) and its practice (72%) may again be differentially influenced by embarrassment.

In any event, the patterns of practice fall well below the guidelines for compliance recommended for this age group. But is this unusual? How do the figures obtained in the Tucson sample compare to those obtained in other samples? Table 5 compares these findings to other studies reported in the literature (see table 5).

A recent national study of screening mammography found that 29 percent of Arizona women age 50 and older reported having a screening mammogram in the past year. This rate placed Arizona in the bottom of the second tercile of all states (Morbidity and Mortality Weekly Report 1989). Another survey, conducted by the American Cancer Society (1988), revealed that the number of women reporting having yearly mammograms was increasing, with a 13% jump between 1983 and 1987. Our study, conducted in Tucson in 1989, found that 51.3% of Hispanics and 55.1% of Anglos reported ever having a mammogram. This is substantially higher than the 1984-1985 rate for Hispanics in Los Angeles found by Richardson et al. (1987) of

26%, which would be consistent with the trend of increasing utilization of mammography among older women. The lower rate found in the Richardson et al. study could be an artifact of the population sampled, which consisted of older Hispanic women (with an average age of 71) who lived for the most part by themselves in public housing projects in Los Angeles, or it could simply be due to the five-year time lag between the two studies.

The rate in our study, however, is lower than the rates found either by the national American Cancer Society of 64% or the rate of 59% for a mostly Latina sample found in eastern Massachusetts found by Zapka et al. (1989). The differences between Arizona and the national sample may be due to high proportions of women in Arizona who reported having no health insurance, and the lack in Arizona of the Medicaid program. Arizona's Medicaid-substitute program, called AHCCCS, has more severe income limits than Medicaid, with the result that a fairly large "notch group" exists composed of people with too much income to qualify for AHCCCS but too little income to purchase private health insurance coverage. This was especially evident in the 50-64 age group in our sample, where non-insured rates reached 35% among Hispanics. Also, despite an Arizona law requiring health insurers to pay for screening mammograms, few women are aware of the law, and many loopholes exist. The variation between our finding and those of Zapka et al. may be due to these factors plus differences in methodology. Zapka et al. interviewed predominantly Latina clients of a community health center in a clinic setting. The interview setting may have led to over-reporting of screening behavior, since clinic records were not checked against self-reports. Also, all their respondents were already tied into the clinic system so they may participate in screening to a higher level than the general

TABLE 5

COMPARATIVE RATES OF BREAST CANCER SCREENING

STUDY	SAINT-GERMAIN & LONGMAN		ACS[1]	RICHARD. & SOLIS[2]	ZAPKA ET AL[3]
YEAR	1989		1987	1985	1987
POPULATION	TUCSON HISPANIC	ANGLO	U.S. WOMEN	L.A. HISPANIC	MASS. LATINA
NEVER HEARD OF MAMMOGRAMS	22.5	13.8	15	-	17
EVER HAD A MAMMOGRAM	51.3	55.1	64	26	59
MAMMOGRAM IN PAST YEAR	31.8	35.5	40	12.5	38
HAS YEARLY MAMMOGRAM	12.0	17.4	26	-	26
EVER HAD BREAST EXAM	84.4	94.2	81	85	96
HAD BREAST EXAM IN PAST YEAR	55.7	54.3	67	50	75
BREAST EXAM IS EMBARRASSING	32.8	19.6	-	45	-
EVER DONE BREAST SELF-EXAMINATION	72.1	79.0	86	67	-
HAS DONE BSE IN PAST YEAR	61.1	71.0	74	59	-

[1]American Cancer Society. 1988. "The 1987 Survey of Public Awareness and Use of Cancer Tests." Conducted by the Gallup Organization, analyzed by Liebermann Research, Inc.

[2]Richardson, Jean L., Gary Marks, Julie M. Solis, Linda M. Collins, Lourdes Birba, and John C. Hisserich. 1987. "Frequency and Adequacy of Breast Cancer Screening Among Elderly Hispanic Women." Preventive Medicine 16:761-774.

[3]Zapka, J.G., A. Stoddard, R. Barth, M.E. Costanza, and Edith Mas. 1989. "Breast Cancer Screening Utilization by Latina Community Health Center Clients." Health Education Research 4:461-468.

population in Massachusetts (or the general population interviewed in our study in Tucson).

Comparisons among these studies of the rates for having had a mammogram in the past year are more difficult. The American Cancer Society survey reports the percentage of women having had a mammogram in the past "1 to 3 years," and the percentage shown in Table 5 for the Zapka et al. study was computed by this author from published data that includes women younger than age 50. There are similar problems for comparisons of rates for having a "yearly" mammogram. The ACS study reports "yearly" mammograms but does not specify how many years were taken into account, while the Tucson and Massachusetts studies both report the percentage of women having had two mammograms in the past two years. Finally, some studies differentiate between "screening" mammograms obtained purely for preventive purposes, as opposed to those obtained because of a suspected or known problem. Standardization for reporting of findings on this topic in the literature would be helpful.

Despite apparent dislike for the procedure, the rates in our study for ever having had a clinical breast examination were comparable to those found in other studies. Our rates for breast self-examination were somewhat lower than the national data for Anglos but comparable to the Los Angles data for Hispanics, especially with regard to performing BSE in the past year. Figures for BSE from the Zapka et al. study were not available.

CONCLUSIONS

Preventive screening for breast cancer can improve the quality of life for older women. In one study, survival rates after 10 years ranged from 60% for those who

detected the cancer early, to only 30% after some spreading, to 0% for late detection (Neale, Tilley and Vernon, 1986). Nationally awareness of the existence of preventive cancer screening tests has increased significantly, and use of these tests has also increased somewhat, but frequency of screening still falls below recommended levels (American Cancer Society, 1988). This trend was echoed in the Tucson study, where some Hispanic and Anglo women were using the various tests for breast cancer screening though they were not using these tests as often as recommended, and Hispanic women were using these tests to a lesser degree than Anglo women (with the sole exception of having a clinical breast exam in the past year).

Clearly more needs to be done to alert women over age 50 that they are in the prime age range for breast cancer, and to inform them about the recommended guidelines for breast cancer screening. It will be important to conduct research to determine how best to structure public health education to ensure that women know about the recommended screening tests for breast cancer and the guidelines for the frequency of their use. In addition, it will be important to find out why women who do know about these tests do not use them, or do not use them in the recommended manner. Several studies have pointed out that preventive care is often delayed or reduced by the elderly (Chao et al., 1987, Lurie et al., 1987), especially older women (Grady et al., 1983), unmarried women (Keith, 1987), and widows (Neale, Tilley and Vernon, 1986). Lack of use could be due either to barriers to access to screening tests (e.g., lack of health insurance), or barriers to utilization (lack of knowledge or lack of concern), or both. More specific attention should be paid to the Hispanic population, since a different approach may be needed to work within cultural preferences, e.g., for a female clinician in the case of clinical breast examination.

Other studies of older Hispanic women indicate that this is an especially isolated group (Kay 1985) who do not tend to seek early detection or treatment of cancer (American Cancer Society, 1990). Finally, public health officials should work to improve Arizona's compliance rate so that it more closely approaches the national median.

REFERENCES

American Cancer Society. 1990. Cancer Facts and Figures-1990. New York: American Cancer Society.

American Cancer Society. 1988. The 1987 Survey of Public Awareness and Use of Cancer Tests. Conducted by the Gallup Organization, analyzed by Lieberman Research, Inc.

Bjornsson, S., et al. 1986. "Mass Screening for Breast Cancer." Scandinavian Journal of Social Medicine 14:3-6.

Chao, A., A. Paganini-Hill, R.K. Ross, and B.E. Henderson. 1987. "Use of preventive care by the elderly." Preventive Medicine 16:710-22.

Grady, Kathleen, S. Stephen Kegeles, Adrian K. Lund, Claudia H. Wolk, and Neil J. Farber. 1983. "Who Volunteers for a Breast Self-Examination Program? Evaluating the Bases for Self-Selection." Health Education Quarterly 10:79-94.

Kay, M. 1985. "Efficacy of Support Groups for Mexican-American Widows." A grant proposal submitted to the Department of Health and Human Services.

Keith, P. 1987. "Postponement of Health Care by Unmarried Older Women." Women and Health 12:47-60.

Lurie, Nicole, Willard G. Manning, Christine Peterson, George A. Goldberg, Charles A. Phelps. and Lee Lillard. 1987. "Preventive Care: Do We Practice What We Preach?" American Journal of Public Health 77:801-804.

Morbidity and Mortality Weekly Report 38, No. 9, March 10, 1989, p.158.

Moskowitz, M. 1986. "Breast Cancer: Age Specific Growth Rates and Screening Strategies." Radiology 161:37-41.

Neale, Anne Victoria, Barbara C. Tilley, and Sally W. Vernon. 1986. "Marital Status, Delay in Seeking Treatment and Survival from Breast Cancer." Social Science and Medicine 23:305-12.

Newell, G.R. and Mills, P.K. 1986. "Low Cancer Rates in Hispanic Women Related to Social and Economic Factors." Women and Health 11:23-36.

O'Malley, R. and S. Fletcher. 1987. "Screening for Breast Cancer with Breast Self-Examination: A Critical Review." Journal of the American Medical Association 257:2197-2203.

Richardson, Jean L., Gary Marks, Julie M. Solis, Linda M. Collins, Lourdes Birba, and John C. Hisserich. 1987. "Frequency and Adequacy of Breast Cancer Screening Among Elderly Hispanic Women." Preventive Medicine 16:761-774.

Sheley, J. and G. Lessan. 1986. "Limited Impact of the Breast Self-Examination Movement: A Latin American Illustration." Social Science and Medicine 236:905-10.

Zapka, J.G., A. Stoddard, R. Barth, M.E. Costanza, and Edith Mas. 1989. "Breast Cancer Screening Utilization by Latina Community Health Center Clients." Health Education Research 4:461-468.